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Jen-Lin Chao

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EXAMINER

DICKERSON, TIPHANY B

ART UNIT

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3623

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/811,222	<b>Applicant(s)</b> CHAO ET AL.	
	<b>Examiner</b> TIPHANY B. DICKERSON	<b>Art Unit</b> 3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**Detailed Action**

1. The following Non-Final rejection is in response to the request for continued examination received on 25 October 2009. Applicant amended claims 7, 9, 10, 11, and 13. Claims 1-6 were previously canceled and no claims were added. Claims 7-18 are now pending.

***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/25/2009 has been entered.

***Response to Amendment***

3. Applicant's amendment of claims 7-12 are sufficient to overcome the previous § 101 rejection.

4. Applicant's amendment of claims 7 is sufficient to overcome the previous § 112 rejection. Therefore, the 35 USC § 112 rejection is hereby withdrawn.

5. In the previous action, (Final Rejection dated 8/19/2009), claims 7-10 and 13-16 were rejected under 103(a) as obvious over Wang et al., in view of the Examiner's Official Notice. Regarding this, Examiner notes that the Applicants' Remarks mistakenly addressed the rejections

Art Unit: 3623

under 102(e). Claims 11, 12, 17, and 18 were rejected under 103(a) as obvious over Wang et al., in view of the Examiner's Official Notice and further in view of Çatay.

6. In the previous Office Action, the Examiner took official notice that method of notifying a second subsystem by passing a value of a variable to another computer function or module is old and well known. Applicant has not adequately and timely traverse this statement under MPEP 2144.03, as applied to claims 12-18, therefore it is hereby taken to be Applicants' admitted prior art.

#### ***Response to Arguments***

Applicant's arguments with respect to claim 12-18 have been considered but are moot in view of the new grounds of rejection.

#### ***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims \*\*\* are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3623

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 7-12 rejected under 35 U.S.C. 103(a) as being obvious over Wang in view of Examiner's Official Notice.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

**Concerning claim 7,** *Wang* discloses a computer-implemented method for balancing production capacity between different production technologies for use in a computer,

wherein the computer is programmed to perform the steps of :

Art Unit: 3623

receiving a first order (Wang, [42], i.e., receives order from order management subsystem);

As noted in the Final Action, Wang does disclose an initial transformed order which the Examiner interpreted as a temporary order; however, Wang fails to disclose generating a dummy order in addition to the first order, which simultaneously exists. Medellin discloses additionally generating a dummy order corresponding to the first order, wherein the dummy order and the first order are simultaneously existed [*existing*] in the computer (See e.g. Medellin, [13-15], disclosing that after an order is booked, a placeholder which reserves an amount of available capacity).

Medellin further discloses reserving a first capacity of a first production technology for the first order (Medellin, [13], i.e., time window which is booked) and reserving a second capacity of a second production technology for the dummy order (Medellin, [13], i.e., placeholder).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use an additionally placeholder as in Medellin in the system executing the method of Wang. As in Medellin, it is within the capabilities of one of ordinary skill in the art of Wang's invention to use known methods to balance resource capacity with the predictable result of efficiently managing resource capacity.

Neither Wang nor Medellin discloses the method wherein the first production technology and the second production technology are different. However Çatay does disclose the method (Çatay, p. 1351, i.e., newer and older tools, wherein 1) newer more efficient tools are "normally

Art Unit: 3623

capable of processing advanced products, as well as older products, and 2) older tools can usually only process older products and could require longer processing times .

Çatay teaches a semiconductor manufacturing capacity planning method utilizing discounting to bias operation order (Çatay, Table 1, p. 1353, i.e.  $C_{tij}$ , discounted operating cost of each tool of type  $i$  to process operation  $j$  in period  $t$ ).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize discounting as taught in Çatay in the system executing the method of Wang. Both methods aim to solve the same problems. As in the subject application, Çatay's method seeks to offer a solution to the problem of planning capacities when both new and old semiconductor products are simultaneously fabricated. Thus, the invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made.

when a second order requesting the first production technology is received canceling the first order and directing the dummy order to substitute the first order , such that the first order is fulfilled by the second capacity originally reserved for the dummy order; and (Medellin, [14], i.e., releases capacity on the flight/resource with the higher demand);

releasing the first capacity originally reserved for the first order (Medellin, [14], releasing capacity).

**Concerning claims 8 and 14**, Wang in view of Medellin and further in view of Çatay discloses further wherein the second order is received before a cut off date for a capacity management cycle (Wang, [0035 and 0045], wherein [0035] receives a purchase order for the

Art Unit: 3623

product; Also Medellin, [15], i.e., at the time of notification selected the placeholder is no longer allowed to be moved-this is the cutoff time).

**Concerning claims 9 and 15**, Wang in view of Medellin and further in view of Çatay disclose the method of claims 8 and 14 further comprising canceling the dummy order releasing the second capacity if the second is not received before the cut off date for the capacity management cycle. Wang further discloses wherein the capacity management module further cancels the dummy order and releases the second capacity if the second order is not received before the cut off date for the capacity management cycle [0035], (i.e., rejects an order sent from other customers before the cutoff date).

**Concerning claims 10 and 16**, Wang in view of Medellin and further in view of Çatay disclose the method of claims 7 and 13 further comprising manufacturing products of the first order using the second capacity, and manufacturing products of the second order using the first capacity. Wang further discloses the method of claim 7 further comprising triggering a fourth subsystem to manufacture products of the first order using the second capacity, and manufacture products of the second order using the first capacity of the third subsystem (Wang, [51], wherein the fourth subsystem is the production line, and [0036-0038], i.e., utilizing a swap mechanism).



Art Unit: 3623

**Concerning claims 11 and 17**, Wang in view of Medellin and further in view of Çatay discloses the method of claims 7 and 13 further comprising calculating a product discount for the first order. Wang does not explicitly teach the method of including an accounting unit to calculate a product discount. However, Medellin does disclose this feature (Medellin, [10] and 16)).

**Concerning claims 12 and 18** Wang in view of Medellin and further in view of Çatay discloses the method of claims 7 and 13 wherein the first production technology is more advanced than the second production technology (Çatay, p. 1351, i.e., newer and older tools, wherein 1) newer more efficient tools are “normally capable of processing advanced products, as well as older products, and 2) older tools can usually only process older products and could require longer processing times.”

### ***Conclusion***

The Notice of References Cited form (PTO-892) contains prior art made of record and not relied upon. These references are considered pertinent to applicant's disclosure.

- *Tsao et al.*, (U.S. 7,085,730) discloses planned or intended technologies which is used for deciding how resources are allocated to planned or intended technologies in the foundry (col. 5, lines 9-16). Tsao's method involves assigning weights to features such as hot products (i.e., product in high demand) and new super star products (i.e., start-up design houses).
- *Wang et al.*, (U.S. 7,483,761) is the patented version of the primary reference Wang et al., (2005/0038684).

Art Unit: 3623

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIPHANY B. DICKERSON whose telephone number is (571)270-7048. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Beth Boswell can be reached on (571)272-6737. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TIPHANY B. DICKERSON/  
Examiner, Art Unit 3623

/Beth V. Boswell/  
Supervisory Patent Examiner, Art Unit 3623